a thick edged lenticular flange as is well known in the art.

In the embodiment illustrated in FIGS. 7 and 8, lens **90** has a body **91** of a refractive material on which are formed anterior surface **92** and a posterior surface **93**. Posterior surface **93** has three zones, a central zone **94**, an intermediate zone **95** and a peripheral zone **96**. Anterior surface **92** also has a central zone **97**, the chord diameter of which substantially equals the chord diameter **98** of posterior central zone **94**. The chord diameter **98** and spherical radius of curvature of posterior central zone **94** and the asphericity of intermediate zone **95** are determined as described with respect to corresponding elements of the embodiments of FIGS. **1** and **2**. The structure and function of peripheral zone **96** corresponds to that of peripheral zone **40** of lens **20** illustrated in FIGS. **1** and **2**. A round segment, or wafer, **99** made of a higher index of refraction material is embedded, or fused, in the lower index of refraction material of lens body **91**. Segment **99** is positioned so that it is in the center of zones **94, 97**, or so that the optical axis **56** of the patient's eye **22** passes through the center of segment **99** when lens **90** is centered on cornea **25**. The optical characteristics of wafer **99**, in conjunction with the spherical radii of curvature of zones **94** and **97**, provides the proper power factor for near vision. The chord diameter of segment **99** is chosen so that it is significantly smaller than the chord diameter of pupil **26** under normal reading illumination but is limited to a range between a minimum of 2.5 mm and a maximum of 3.5 mm. The spherical radii of curvature of zones **94** and **97** in the paracentral region **100** provides the proper optical power factor to provide substantially normal distance vision. The radius of curvature of anterior surface **92** lying outside central zone **97** will generally have the same radius of curvature as central zone **97**.

In the embodiment illustrated in FIGS. **9** and **10**, lens **105** has a body **106**, an anterior surface **107** and a posterior surface **108**. Posterior surface **108** has three zones, a central zone **109**, an intermediate zone **110** and a peripheral zone **111**. Anterior surface **107** also has a central zone **112**, the chord diameter of which substantially equals the chord diameter **113** of posterior central zone **109**. Posterior central zone **109** is divided into two regions, a central region **116** and a paracentral region **117**. The chord diameter of central region **116** is approximately three-quarters of the chord diameter of pupil **26** when measured under a dim, or a lower level of intensity light, but is limited to a range between a minimum of 3.0 mm and a maximum of 6.0 mm. The structure and function of intermediate zone **110** and peripheral zone **111** corresponds to that of intermediate zone **80**, peripheral zone **81**, respectively, of lens **75**, except that peripheral zone **111** may be provided with a pair of adjacent spherical surfaces **114** and **115**, with the radius of curvature of surface **115** being greater than that of **114**.

Utilizing the calculated radius of curvature of central region **116**, the radius of curvature of the outer edge of paracentral region **117** is calculated in accordance with the previously described formula,

$$F = \frac{n' - n}{r}.$$

The inner edge of paracentral region **117** has substantially the same radius of curvature as central region **116**. The radius of curvature of paracentral region **117** is an integrated curve extending between the inner and outer edges. Resultingly, the paracentral region **117** is an aspheric surface, the radius of curvature of which changes continuously from that of the central region at the boundary between the two regions to a radius of curvature necessary in conjunction with the radius of curvature of the anterior central zone **112** to provide the near point full add power to provide the patient with corrected vision from near to distant, and for all distances between, or a multifocal lens for the presbyope patient. The spherical radius of curvature of anterior central zone **112** and that of the posterior central region **116** provides the proper power factor to provide the patient with substantially normal distance vision. The radius of curvature of anterior surface **107** lying outside of central zone **112** will generally be the same as that of central zone **112**.

When aspheric lens of this invention is applied, or worn by the patient, the central zone of the patient's cornea becomes more spherical; the inner portion of the intermediate zone of the cornea becomes more spherical and the outer part of the intermediate zone and the near periphery zone assume a specific aspheric shape. The relationship between the central, intermediate and peripheral zones of a cornea are substantially similar to those of the zones of the same name of the posterior surface of a lens. The measured radius of curvature of the inner portion of the intermediate zone of the cornea and its central zone on the nasal and temporal half meridians, for example, become substantially the same with that radius being an average of the nasal and temporal curves measured in the near periphery zone of the cornea prior to lens application. The radius of curvature of the inner portion of the intermediate zone of the cornea and its central zone measured on inferior and superior half meridians will also become substantially the same with the radius being the average of the superior and inferior curve measured in the near periphery zones prior to lens application. However, the near peripheral and outer portion of the intermediate zone of the cornea measured on any meridian will have a greater radius of curvature than the inner intermediate area of the cornea on the same meridian.

The shape of the cornea, as described above, is much more ideal for the long term wearer of contact lenses because it aids in centering a contact lens on a cornea. At the same time, lenses of this invention will permit adequate movement for proper fluid exchange which significantly reduces the risk of corneas becoming edematous, even if nonoxygen permeable materials are used in fabricating the lenses, while providing the patients with properly corrected distant, bifocal or multifocal vision.

It should be evident that various modifications can be made to the described embodiments without departing from the scope of the present invention.

What is claimed is:

1. A corneal contact lens for correcting the vision of an eye of a patient, said lens comprising:

a lens body made of a refractive material, said body having an anterior surface and a posterior surface, said posterior surface having a central zone, an intermediate zone, and a peripheral zone, said anterior surface having a central zone corresponding to the central zone of the posterior zone, the portion of the lens body defined by the posterior and anterior central zones substantially defining the optically effective portion of the lens for correcting the vision of the wearer;